

REMARKS

Entry of this Amendment and reconsideration are respectfully requested in view of the amendments made to the claims and for the remarks made herein.

Claims 1-9 are pending and stand rejected. Claims 1, 8 and 9 have been amended. Claim 7 has been cancelled.

With regard to the reject of the claims, generally, applicant respectfully disagrees with, and explicitly traverses, the reason for rejecting the claims. However, in order to advance the prosecution of this matter, independent claims 1, 8 and 9 have been amended to more clearly state the invention. More specifically, the independent claims have been amended to recite that the "a pixel [is] to be filtered if the number of edge pixels in a defined neighborhood of the pixel lies within a defined range." No new matter has been added. Support for the amendment may be found in the subject matter recited in at least claim 7, which has been cancelled.

Claim 7 stands rejected under 35 USC 103(a) as being unpatentable over Jayant as applied to claim 1 and further in view of Gupta (USP no. 5,852,475).

Jayant discloses a system for enhancing image/video signals using preferably a temporal filter and a spatial filter both of which are adaptive but neither is required to be adaptive. More specifically, Jayant teaches that the spatial filter receives temporally filtered pixel data and then classifies the received pixel data into categories of edge/non-edge, smooth/non-smooth, and moving/non-moving and applies different processing for each category. Figure 6 illustrates more specifically the processing, wherein a determination is made whether a pixel is an edge pixel or a non-edge pixel (block 142) and performs a multi-level median filter (block 144). Accordingly, after a pixel is determined to be an edge pixel, Jayant does not consider whether the pixel is in the category smooth/non-smooth or moving/non-moving. However, if the pixel is determined to be a non-edge pixel, a determination is made whether the pixel is smooth or non-smooth. Smooth non-edge pixels are subject to a double median filter (block 148). After a pixel is determined to be a non-edge smooth pixel, Jayant does not consider whether the pixel is in the category moving/non-moving. However if the pixel is determined to be a non-edge, non-smooth pixel, then a determination is made whether the pixel is moving or non-moving. If the pixel is determined to be moving then the pixel is

filtered using a median filtering method (block 152). However is the pixel is determined to be a non-edge, non-smooth, non-moving pixel, then no filtering occurs. This process is described in detail in col. 7, line 20-col. 9, line 13.

Jayant teaches that the multi-level medium filter of edge pixels is advantageous as it preserves details of images, especially features such as a thin line that may not be preserved by the traditional median filter.(see col. 7, lines 63-65). Jayant, however, fails to teach a determination of filter based on whether a number of edge pixels in a defined neighborhood of the pixel lies within a defined range, as is recited in the claims.

Jayant, further, fails to provide any teaching, suggestion or motivation to incorporate a determination of the number of a type of pixels in a defined neighborhood as is recited in the claims.

Gupta teaches a post-processor for a decoded video sequence including a digital noise reduction unit and an artifact reduction unit which significantly reduces blocking artifacts and mosquito noise in a video image. The post-processor uses artifact reduction only on portions of the image that are not part of an edge and are not part of a texture or fine detail area (see Abstract). Gupta further teaches that "a continuous non-edge checker determines whether enough non-edge pixels are present in a three-by-three window including the current pixel to perform further directional filtering without filtering an edge pixel. If at least three of the pixels are non-edge pixels, a continuous line of non-edge pixels may exist through the window. However, if less than three of the pixels in the current window are not-edge pixels any one-dimensional filter along any possible axis through the current window would include an edge pixel. Consequently, if the filter control flag is less than three, continuous non-edge check transfers processing to last pixel check and otherwise to vertical line of non-edge pixel check." (see col. 21, lines 25-37).

A claimed invention is prima facie obvious when three basic criteria are met. First, there must be some suggestion or motivation, either in the reference themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings therein. Second, there must be a reasonable expectation of success. And, third, the prior art reference or combined references must teach or suggest all the claim limitations.

With regard to obviousness, the courts have found that “[t]he very ease with which the invention can be understood may prompt one to fall victim to the ... effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher.” *Iron Grip Barbell Company v. USA Sports, Inc.*, Docket no. 04-1149, Dec. 14, 2004, p. 4, (Fed.Cir. 2004), (quoting *In re Kotzab*, 217 F.3d 1365, 1369 (Fed. Cir. 2000). “Where an invention is contended to be obvious ... our cases require that there be a suggestion, motivation or teaching ... for such a combination.” *Id.* at 5 (quoting *In re Fine*, at 1074 (Fed. Cir. 1988). “This requirement prevents the use of ‘the inventor’s disclosure as a blueprint for piecing together the prior art to defeat patentability -- the essence of hindsight.’” *Id.* (quoting *Ecolchem, Inc. v. So. Cal. Edison Co.*, 227 F.3d 1361, 1371-1372 (Fed. Cir. 2000), quoting *In re Dembiczak*, 175 F. 3d 994, 999 (Fed. Cir.1999)).

Applicant believes that the teachings of the instant application have been impermissibly used as a blueprint to modify Jayant without any suggestion or reason for such modification. Jayant teaches using one type of filtering for a determined edge pixel and a second type of processing for a non-edge pixel. Jayant fails to teach or suggest a further determination of the type of pixels in a neighborhood of a selected pixel and providing a filtering based on the number of edge pixels in the neighborhood the selected pixel, as is recited in the claims. Rather, the Office Action has incorporated this additional processing step, disclosed by Gupta, based on the information recited in the instant claims.

In view of the above, applicant submits that the independent claim 1, as amended by the subject matter recited in claim 7 is patentable over the teachings of the cited references.

Applicant respectfully requests withdrawal of the rejection and allowance of the claim.

Claims 1-3 and 8 stand rejected under 35 USC 102(b) as being anticipated by Jayant (USP no. 5,473,384).

As argued above with regard to the rejection of claim 7, Jayant, however, fails to teach a determination of filter based on whether a number of edge pixels in a defined

neighborhood of the pixel lies within a defined range, as is recited in the claims.

A claim is anticipated only if each and every element recited therein is expressly or inherently described in a single prior art reference. Jayant cannot be said to anticipate the present invention, because Jayant fails to disclose each and every element recited.

Applicant submits that the reason for the rejection of claim 1 has been overcome and can no longer be sustained. Applicant respectfully requests withdrawal of the rejection and allowance of claim 1.

With regard to independent claim 8, this claim recites subject matter similar to that recited in claim 1 and was rejected for the same reason used in rejecting claim 1. Thus, for the amendment made to this claim, which is similar to the amendment made with regard to claim 1, and for the remarks made in response to the rejection of claim 1, which are also applicable in response to the rejection of claims 8, and are reasserted, as if in full, herein, in response to the rejection of this claim, applicant submits that the reason for rejecting this claim has been overcome and the rejection can no longer be sustained. Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

With regard to dependent claims 2 and 3, these claims ultimately depend from the independent claim 1, which has been shown to contain subject matter not disclosed by, and, hence, allowable over, the reference cited. Accordingly, these claims are also allowable by virtue of their dependency from an allowable base claim.

Applicant respectfully requests withdrawal of the rejection and allowance of these claims.

Claims 4 and 9 stand rejected under 35 USC 103(a) as being unpatentable over Jayant as applied to claim 1. With regard to dependent claim 4, the Office Action states that Official Notice has been taken that "edge detection using gradient thresholds is well known in the art of image processing." With regard to claim 9, the Office Action states that Official Notice "that it is well known ... to adapt a processing method to be stored on a computer-readable storage medium."

Applicant respectfully disagrees with and explicitly traverses the reason for rejecting the claims.

With regard to claim 4, this claim ultimately depends from the independent claim 1, which has been shown to contain subject matter not disclosed by, and, hence,

allowable over, the primary reference and the Official Notice taken fails to correct the deficiency in the teachings of the primary reference. Accordingly, this claim is not rendered obvious by the combination of the primary reference and Official Notice as the combination fails to teach or suggest all the claim elements recited.

Applicant respectfully requests withdrawal of the rejection and allowance of this claim.

With regard to claim 9, this claim recites subject matter similar to that recited in claim 1, which has been shown to contain subject matter not disclosed by, and, hence, allowable over, the primary reference and the Official Notice taken fails to correct the deficiency in the teachings of the primary reference. Accordingly, this claim is not rendered obvious by the combination of the primary reference and Official Notice as the combination fails to teach or suggest all the claim elements recited.

Applicant, accordingly, respectfully requests withdrawal of the rejection and allowance of this claim.

Claims 5 and 6 stand rejected under 35 USC 103(a) as being unpatentable over Jayant as applied to claim 4 and further in view of Gupta (USP no. 5,852,475).

Applicant respectfully disagrees with, and explicitly traverses, the reason for rejecting these claims.

With regard to claims 5 and 6, these claims ultimately depends from the independent claim 1, which has been shown to contain subject matter not disclosed by, and, hence, allowable over, the primary reference and Gupta fails to correct the deficiency in the teachings of the primary reference. Accordingly, these claims are not rendered obvious by the combination of the cited references as the combination fails to teach or suggest all the claim elements recited.

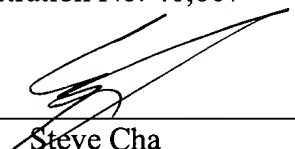
Although the last Office Action was made final, this amendment should be entered. No matter has been added to the claims that would require comparison with the prior art or any further review. Accordingly, pursuant to MPEP 714.13, applicant's amendments should only require a cursory review by the examiner. The amendment therefore should be entered without requiring a showing under 37 CFR 1.116(b).

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

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Date: July 15, 2005

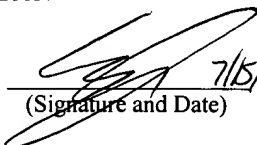

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